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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/711,159

08/28/2004

Min-Cheng Kao

13202-US-PA

5158

31561

7590

05/08/2006

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

KIM, KENNETH S

ART UNIT

PAPER NUMBER

2111

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/711,159	Applicant(s) KAO, MIN-CHENG	
	Examiner Kenneth S. KIM	Art Unit 2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

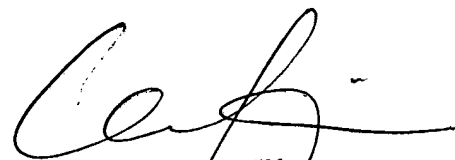
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


KENNETH S. KIM
PRIMARY EXAMINER

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>Aug28'04</u> . | 6) <input type="checkbox"/> Other: _____ |

1. Claims 1-12 are presented for examination.
2. The abstract of the disclosure is objected to because the current abstract lack clarity and does not reflect the inventive feature of the claimed invention to distinguish over the prior art. Correction is required. See MPEP § 608.01(b).
3. Applicant is requested to correct numerous grammatical and typographical errors in the specification. Applicant is also reminded that the use of “current instruction” to refer to many different instructions makes the description very confusing, and it is not clear which instruction the “subsequent instruction” refers to.
4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - (a) Claim 1, it is not clear how the current instruction being a call instruction can be identified as a return instruction.
 - (b) Claim 7, the same as (a), and “said return target layer” lacks antecedent basis.
 - (c) Claims 4, 5, and 8-11, it is not clear what is the utility of the “effective flag”.
6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2111

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by

Hilgendorf et al, U.S. Patent No. 5,974,543.

Hilgendorf et al teaches the invention as claimed in claim 1 including a method comprising:

(a) providing a return target stack (50) and a return instruction address at initialization (to be stored in BHT; col. 5, lines 1, 6, and 19),

(b) fetching a current instruction (col. 3, line 30),

(c) if said current instruction being a call instruction (col. 5, line 42), adding an address of said current instruction with a length of said current instruction for obtaining a target pointer (col. 5, lines 49 and 51) to store in said return target stack (col. 5, line 34),

(d) if an address of subsequent instruction after said current instruction is executed (return instruction target) being identical to said target pointer stored in said return target stack (col. 5, line 64), said current instruction is identified as a return instruction (col. 6, line 4), and

further teaches as in claims 2-6,

- (e) storing return instruction address in return instruction address table (portion of BHT storing return instruction addresses and marked as such, col. 6, line 6) – claim 2,
- (f) deleting said target pointer identical to said subsequent instruction address in said return target stack (upon execution of the return instruction) – claim 3,
- (g) providing effective flag and clearing at initialization and setting at storing target pointer (conventionally used for validity check) – claims 4 and 5,
- (h) said return target stack is a circular queue (col. 5, line 38) – claim 6.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilgendorf et al, U.S. Patent No. 5,974,543 in view of Beckwith, U.S. Patent No. 5,136,696.

Hilgendorf et al teaches the invention substantially as claimed as forth above in paragraph 7, however, does not expressly state that target address is read off the top of the return target stack when an instruction identified as a potential return instruction is fetched.

Beckwith et al teaches the method of obtaining the target address from the top of the return target stack when an instruction identified as a potential return instruction (col. 8, line 68).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made that return target addresses are stored to be retrieved from the top of the return target stack when an instruction is identified as a potential return instruction, and the person would have been motivated to obtain the address when an instruction identified as a return instruction is fetched for predicting the return target address.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Emma et al taught a method of identifying a return instruction by comparing the return target to entries in the return target stack.

Ukai et al taught a method of comparing return target to entries in a return target stack.

Shiell taught a method of obtaining return target address from the top of a return target stack and of using validity flags (col. 10, line 20).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth S KIM whose telephone number is (571) 272-3627. The examiner can normally be reached on M-F (8:30-17:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (571) 272-3632. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for all communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.


KENNETH S. KIM
PRIMARY EXAMINER